Patent claims

1. A system for reducing the speed and/or limiting the motion of the motor means restraining the angular position of the rotor of a propeller motor, said system comprising a propulsion unit, a propeller (22), (29), a permanently magnetized propeller motor (23), (30), and a frequency converter (25), (32) connected to an electrical power network (24), (31), **characterized** in, that the system further comprises a switch arrangement (26), (33), which switch arrangement (26), (33) comprises means for disconnecting the propeller motor (23), (30) from the electrical power network and means for essentially short-circuiting the stator windings of the propeller motor (23), (30).

2. A system according to claim 1, **characterized** in that when a need for braking the propeller motor (23) is detected, first, the propeller motor (23) is disconnected from the electrical power network, after which the stator windings of the propeller motor (23) are switched into a short-circuit.

3. A system according to claim 1, **characterized** in that when a need for braking the propeller motor (30) is detected, first, the propeller motor (30) is disconnected from the electrical power network, after which the stator windings of the propeller motor (30) are switched into a short-circuit within the frequency converter (32).

4. A system according to claim 3, **characterized** in that the short-circuit is switched using semiconductors.

5. A system, according to claim 2, 3 or 4, **characterized** in that the short-circuit is implemented such, that the stator

windings of the propeller motor (23), (30) simultaneously are also connected to equipment ground.

6. A system according to any one of the preceding claims 2-5, **characterized** in that the switch arrangement (26), (33) is controlled by a control section (27), (34) of the frequency converter.

7. A system according to any one of the preceding claims 2-6, **characterized** in, that a synchronous motor (23), (30) is used as the propeller motor (23), (30) of the propulsion unit.

8. A system according to any one of the preceding claims 1-7, **characterized** in, that the braking system is implemented for switching more than one propulsion unit.

9. A system for reducing the speed and/or limiting the motion of the motor means restraining the angular position of the rotors of turning motor units, said system comprising a propulsion unit, a propeller (22), (29), permanently magnetized motor units (10), (11) of the turning arrangement, and a frequency converter (25), (32) connected to an electrical power network (24), (31), **characterized** in, that the system further comprises a switch arrangement (26), (33), which switch arrangement (26), (33) comprises means for disconnecting the motor units (10), (11) from the electrical power network and means for essentially short-circuiting the stator windings of motor units (10), (11).

10. A system according to claim 9, **characterized** in that when a need for braking the motor units (10), (11) is detected, first, the motor units (10), (11) are disconnected

from the electrical power network, after which the stator windings of the motor units (10), (11) are switched into a short-circuit.

11. A system according to claim 9, **characterized** in that when a need for braking the motor units (10), (11) is detected, first, the motor units (10), (11) are disconnected from the electrical power network, after which the stator windings of the motor units (10), (11) are switched into a short-circuit within the frequency converter (32).

12. A system according to claim 11, **characterized** in that the short-circuit is switched using semiconductors.

13. A system, according to claim 10, 11 or 12, **characterized** in that the short-circuit is implemented such, that the stator windings of the motor units (10), (11) simultaneously are also connected to equipment ground.

14. A system according to any one of the preceding claims 10-13, **characterized** in that the switch arrangement (26), (33) is controlled by a control section (27), (34) of the frequency converter.

15. A system according to any one of the preceding claims 10-14, **characterized** in, that synchronous motors (10), (11) are used as the motor units (10), (11) of the turning arrangement of the propulsion unit.

16. A system according to any one of the preceding claims 9-15, **characterized** in, that the braking system is implemented for switching more than one propulsion unit.

17. A method for reducing the speed and/or limiting the motion of the motor means restraining the angular position of the rotor of a propeller motor in a system comprising a propulsion unit, a propeller (22), (29), a permanently magnetized propeller motor (23), (30), and a frequency converter (25), (32) connected to an electrical power network (24), (31), and a switch arrangement (26), (33) **characterized** in, that in the method according to the invention, first, a need for braking a propeller motor (23), (30) is detected (35), next, the propeller motor (23), (30) is disconnected (36) from the electrical power network (24), (31), after which the stator windings of the propeller motor (23), (30) are short-circuited (37).

18. A method according to claim 17, **characterized** in that before the stator windings of the propeller motor (23), (30) are short-circuited (37), a check is made to ensure (38), that the propeller motor (23), (30) is disconnected from the electrical power network.

19. Method, according to claim 17 or 18, **characterized** in that the braking method is implemented for switching more than one propulsion unit.

20. A method for reducing the speed and/or limiting the motion of the motor means restraining the angular position of the rotors of turning motor units in a system comprising a propulsion unit, a propeller (22), (29), permanently magnetized motor units (10), (11) of the turning arrangement, and a frequency converter (25), (32) connected to an electrical power network (24), (31), and a switch arrangement (26), (33) **characterized** in, that in the method according to the invention, first, a need for braking motor units (10), (11) is de-

tected (35), next, the motor units (10), (11) are disconnected (36) from the electrical power network (24), (31), after which the stator windings of the motor units (10), (11) are short-circuited (37).

21. A method according to claim 20, **characterized** in that before the stator windings of the motor units (10), (11) are short-circuited (37), a check is made to ensure (38), that the motor units (10), (11) are disconnected from the electrical power network.

22. Method, according to claim 20 or 21, **characterized** in that the braking method is implemented for switching more than one propulsion unit.